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The right to food

Note by the Secretary-General

The Secretary-General has the honour to transmit to the members of the General Assembly the interim report of the Special Rapporteur on the right to food, Olivier De Schutter, submitted in accordance with General Assembly resolution 66/158.

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Interim report of the Special Rapporteur on the right to food

Summary

Global marine and inland fisheries provide food security to millions of people, supplying a vital source of high-quality dietary protein and supporting livelihoods and incomes. It is widely acknowledged, however, that the productivity of global fisheries as a source of food is declining, caused primarily by unsustainable and destructive fishing practices and distorting subsidies, and aggravated by climate change. In the present report, the Special Rapporteur identifies the challenges facing global fisheries and examines how the individuals most vulnerable to negative impacts (the residents of developing coastal and island countries, especially low-income food-deficit countries) can be supported to ensure the progressive realization of the right to food, noting that pursuing a human rights approach is critical to achieving sustainable development in the fisheries sector.

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I. Introduction

1. As noted in paragraph 113 of the outcome document of the United Nations Conference on Sustainable Development, adopted by the General Assembly in its resolution 66/288, the contribution made by the global fisheries sector to the right to food and food security is critical. Yet, in part because data are insufficient, it is often underappreciated. Most strategies aimed at improving food security neglect this sector or make only passing reference to it. Until recently, insufficient attention has been paid to protecting the rights of fishers and, more generally, individuals who depend on the fisheries sector. The Special Rapporteur assesses herein both the contribution of the fisheries sector to the realization of the right to adequate food and the challenges that the sector faces. He then makes recommendations that could guide current and future processes at the global level and the implementation of national-level policies that would support the realization of the right to food.

2. The present report has been prepared through studies and consultations. The Special Rapporteur is particularly grateful to the Fisheries and Aquaculture Department of the Food and Agriculture Organization of the United Nations (FAO) and to the United Nations Environment Programme (UNEP) for having co-organized with the mandate an expert meeting in Nairobi on 2 and 3 April 2012 that saw the participation of researchers, policymakers from all levels of government and representatives of non-governmental organizations, the fishing industry and small-scale fishing communities. He expresses thanks to the many individuals and organizations who contributed to informing his views on the topic considered herein.

II. Contribution of fisheries to the right to food

3. Fisheries contribute to food security through two pathways: directly, by providing fish for people, especially low-income consumers, to eat, thereby improving both food availability and the adequacy of diets; and indirectly, by generating income from the fisheries sector.

A. Food availability and improved diets

4. The total contribution by fisheries to food consumption has grown substantially over the past 50 years, averaging an increase of more than 3 per cent annually. Global per capita fish consumption stands at some 18.4 kg per annum,[1] although significant regional differences exist. In low-income food-deficit countries (excluding China), per capita fish consumption stands at some 10 kg, compared to approximately 29 kg in industrialized countries. Africa has the lowest per capita fish consumption of all continents, at 9.1 kg. Even these aggregate figures mask considerable variations between and within countries, however. Fish consumption, and dependency on fish, can be much higher in island and coastal countries, and in countries with large freshwater lakes and rivers. Furthermore, the lower average fish consumption in many developing countries notwithstanding, fish represents a higher proportion of dietary animal protein in developing countries and low-income food-deficit countries than in developed countries. Globally, fish represents 15 per cent of all

[1] FAO, *The State of World Fisheries and Aquaculture 2012* (Rome, 2012), p. 84.

animal protein consumed by people, whereas in low-income food-deficit countries the proportion is higher, at about 20 per cent, and in Asia it is higher still, at about 23 per cent.[2] In West and Central African countries such as the Congo, Côte d'Ivoire, Gabon and Ghana, fish provides almost half of a person's animal protein needs.[3] Indeed, there are at least 30 countries in which fisheries contribute more than one third of total animal protein supply, 22 of which are low-income food-deficit countries.[4]

5. Many fish are also rich in micronutrients, especially the smaller fish that are accessible to people living in poverty. The consumption of fish therefore not only helps to combat hunger, but also can address hidden hunger, or micronutrient deficiency. In addition, the seasonal availability of fish in rural communities is often different from crops, meaning that fish can help to reduce seasonal vulnerability.[4]

B. Sustaining livelihoods

6. The fisheries sector can contribute to the realization of the right to food by providing employment and income and sustaining local economies. Globally, 54.8 million people are engaged in capture fisheries and aquaculture and approximately three times as many are involved in upstream and downstream activities (e.g. fish processing, selling, net-making and boatbuilding).[2] Small-scale fisheries predominate in developing countries, where most fishing-related employment resides. Industrial boats employ some 200 people for every 1,000 tons of fish caught, while small-scale fishing methods (used by 90 to 95 per cent of people in the fisheries sector) employ some 2,400 people for the same amount of fish.[5] This greater intensity of labour has led experts to conclude that the small-scale fisheries sector is particularly pro-poor.[6] Women comprise about half of the global fisheries workforce, typically concentrated in the pre-harvest and post-harvest sector.[7] While employment is stagnating in wild-capture fisheries in most regions, it is increasing in aquaculture, especially in Asia, where employment rose from some 3.7 million people in 1990 to well in excess of 10 million people by the late 2000s (see table 1).

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[2] See John Kurien, "Responsible fish trade and food security: toward understanding the relationship between international fish trade and food security", 2004. Available from www.tradefoodfish.org/images/iitfpfs2.PDF.

[3] FAO, "Achieving poverty reduction through responsible fisheries: lessons from West and Central Africa", FAO Fisheries and Aquaculture Technical Paper, No. 513 (Rome, FAO, 2008), p. 48.

[4] Nozomi Kawarazuka, "The contribution of fish intake, aquaculture, and small-scale fisheries to improving food and nutrition security: a literature review", The WorldFish Center Working Paper, No. 2,106 (Penang, Malaysia, 2010), pp. 6-7.

[5] FAO and WorldFish Center, "Small-scale capture fisheries: a global overview with emphasis on developing countries: a preliminary report of the Big Numbers Project". The WorldFish Center Working Paper, No. 37,878 (Penang, Malaysia, 2008), p. 15.

[6] Daniel Pauly, "Small but mighty: elevate the role of small-scale fishers in the world market", *Conservation Magazine*, vol. 8, No. 3 (July-Sept 2007), p. 25.

[7] See David J. Mills and others, "Under-reported and undervalued: small-scale fisheries in the developing world", in *Small-scale Fisheries Management: Frameworks and Approaches for the Developing World*, Robert S. Pomeroy and Neil Andrew, eds. (Wallingford, United Kingdom of Great Britain and Northern Ireland, CABI, 2011).

Ta · 1
World fishers and fish farmers by continent

	1990	1995	2000	2005	2010
			(Thousands)		
Africa	1 917	2 184	3 899	3 844	3 955
Asia	26 765	31 328	36 752	42 937	47 857
Europe	645	529	752	678	634
Latin America and the Caribbean	1 169	1 201	1 407	1 626	1 974
North America	385	376	343	342	342
Oceania	67	69	74	74	76
World	**30 948**	**35 687**	**43 227**	**49 502**	**54 838**
Of which fish farmers					
Africa	2	61	84	124	150
Asia	3 772	7 050	10 036	12 228	16 078
Europe	32	57	84	83	85
Latin America and the Caribbean	69	90	191	218	248
North America	–	–	–	4	4
Oceania	2	4	5	5	6
World	**3 877**	**7 261**	**10 400**	**12 661**	**16 570**

Source: *The State of World Fisheries and Aquaculture 2012* (FAO, 2012).

7. The contribution of the small-scale fisheries sector tends to be obscured by national statistics because of underreporting, in particular in developing countries. For example, it was concluded in a 2010 study that, in one country, the actual catch of the small-scale sector was more than six times greater than that officially reported by the Government to FAO.[8] Underreporting of both catches and employment is especially high for inland small-scale fisheries, resulting in a tendency to neglect this subsector.

8. The small-scale fisheries sector is therefore an extremely important, albeit undervalued, source of livelihood, providing employment and income to millions of people, including women, in the post-harvest sector. It also plays an important safety net function, however. In times of crisis, often caused by failing agriculture, conflict or recession, fishing provides important part-time or temporary income or relatively free food.[9] The increased price volatility of food commodities created by climate change and other factors could make this role even more important in the future. Nevertheless, for fishing to provide this safety net, it must be kept relatively open and free. This creates tension with some approaches to avoiding overfishing, in particular exclusive user rights.

[8] See J. Jacquet and others, "Few data but many fish: marine small-scale fisheries catches for Mozambique and Tanzania", *African Journal of Marine Science*, vol. 32, No. 2 (2010).

[9] FAO, "Increasing the contribution of small-scale fisheries to poverty alleviation and food security", FAO Technical Guidelines for Responsible Fisheries, No. 10 (Rome, FAO, 2005), p. 13.

III. Current challenges

9. Maintaining, and in some cases increasing, fish supply can contribute significantly to the realization of the right to food in many countries, especially where alternative sources of high-quality protein are scarce or unaffordable. As demand for fish increases as a result of population growth and urbanization, however, supply can be matched only by further overfishing (beyond the carrying capacity of stocks) and reliance on industrial fishing methods that have profound environmental impacts, or by other means, including the development of aquaculture, the reduction of post-harvest losses and of the diversion of fish for fishmeal and other non-food uses, or the prohibition of the use of destructive fishing gear.[10] Although a decline in per capita fish-food supply is measurable today only in sub-Saharan Africa and is projected for the Pacific island countries and territories, a number of trends now result in serious threats to fish-food availability on a worldwide basis.

A. Environmental sustainability

10. The world's oceans and many of the world's lakes and rivers face serious threats. Without considerable effort to reverse existing trends, the ability of these aquatic ecosystems to continue to provide healthy quantities of fish will further decline. As acknowledged in paragraphs 163 to 168 of the outcome document of the United Nations Conference on Sustainable Development, the situation is worsening rapidly as the impacts of overfishing, destructive fishing and discards are exacerbated by the effects of climate change, pollution and habitat destruction.

1. Overfishing

11. Since the 1950s, there has been tremendous growth in fishing capacity worldwide, with the number and power of fishing vessels increasing dramatically. Between 1970 and 1990, global fish harvesting capacity grew eight times faster than the rate of growth in landings.[11] Although this trend may have slowed, technological improvements in fishing (including the use of spotter planes, sonar devices and underwater mapping technology, in addition to new fishing gears and improvements in refrigeration and navigation) mean that fishing capacity is bound to continue to grow. It has been estimated that, because of overcapacity and technology creep, the capacity of the global aggregate fishing fleet is at least double that which is needed to exploit the oceans sustainably.[12] Fishing sector subsidies may be contributing to this problem: each year, fisheries subsidies amount to between $30 billion and $34 billion, with $20 billion used to directly support improved fishing capacity, such as fuel and boatbuilding subsidies.[13]

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[10] According to FAO in its 2010 report on the state of world fisheries and aquaculture, fish production needs to increase by at least 27 million tons over the coming two decades to sustain current global per capita consumption levels.

[11] Dominique Gréboval and Gordon Munro, "Overcapitalization and excess capacity in world fisheries: underlying economics and methods of control", in *Managing Fishing Capacity: Selected Papers on Underlying Concepts and Issues*, Dominique Gréboval, ed., FAO Fisheries Technical Paper, No. 386 (FAO, Rome, 1999), p. 1.

[12] See Serge M. Garcia and Richard J. R. Grainger, "Gloom and doom? The future of marine capture fisheries", *Philosophical Transactions of the Royal Society B*, vol. 360, No. 1,453 (January 2005).

[13] See U. Rashid Sumaila and others, "A bottom-up re-estimation of global fisheries subsidies", *Journal of Bioeconomics*, vol. 12, No. 3 (October 2010).

12. While the global production figures for wild-capture fisheries provided by FAO appear stable, these data may not always provide a complete picture, given that they exclude unreported and illegally caught fish and that catches by small-scale inland fisheries often go underreported. Moreover, production levels over the past few decades have been achieved partly by shifting fishing efforts to other, normally smaller fish. As a result of fishing down marine food webs (or the increasing dominance of catches by low-trophic-level species), 90 per cent of all large predatory fish species in parts of the world's oceans have disappeared since 1950.[14] In addition, the growth of commercial fisheries since the 1950s has meant that commercial fisheries from traditionally powerful fishing entities (the European Union, Japan, North America and the Russian Federation) have been deployed to almost all areas of the globe, searching for new fishing opportunities as old ones have been exhausted.[15] This geographical displacement has intensified with the rise of new distant-water fishing fleets, such as those of China and the Republic of Korea. Such displacement also occurs at the micro level, given that in many coastal areas of the world fishers are responding to localized depletion by travelling further, spending more time at sea (thereby using more fuel) and migrating to neighbouring countries.

2. Destructive fishing and discards

13. Overfishing is but one reason why the current system is unsustainable. Although recent technological progress has reduced the environmental impact of industrial fishing, some methods, such as industrial bottom trawling, remain highly destructive and wasteful. Other methods, such as high-grading (where fishing boats do not retain catches because of their inferior market value or because the size or species of the catch is prohibited by regulations), also cause significant discards of fish and other marine wildlife. Conservative estimates put average annual discards at some 7.3 million tons, or about 9 per cent of total global production.[16]

14. Reducing the most unsustainable practices is difficult for numerous reasons, including the prevalence of illegal fishing practices, trans-shipment at sea, the targeting and trading of protected species, the use of banned fishing gear and the activities of industrial boats in coastal zones reserved for small-scale fisheries. Estimates of the scale of illegal fishing vary considerably, from about $9 billion to $25 billion, or between 10 million and 28 million tons.[17] Although such estimates should be treated with caution, it is clear that, as fish are becoming less abundant, fishing vessels are tempted to evade rules and conservation strategies.

15. In comparison to some industrial fishing methods, small-scale fisheries rarely discard catches and tend to have a much lower impact on aquatic habitats. In many parts of the world, however, the increase in the number of small-scale fishers is causing stress on fish populations. A minority of small-scale fishers also uses destructive methods of fishing, such as encroachment into protected areas and the

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[14] See Boris Worm and others, "Global patterns of predator diversity in the open oceans", *Science*, vol. 309, No. 5,739 (August 2005).

[15] See Wilf Swartz and others, "The spatial expansion and ecological footprint of fisheries (1950 to present)", *PLoS ONE*, vol. 5, No. 12 (December 2010).

[16] See Kieran Kelleher, "Discards in the world's marine fisheries. An update", FAO Fisheries Technical Paper, No. 470 (Rome, FAO, 2005).

[17] See High Seas Task Force, *Closing the net: stopping illegal fishing on the high seas* (London, 2006).

use of dynamite fishing, poisons to catch reef fish and extremely fine nets that are banned because of their impact on juvenile fish. In one report on illegal fishing in West Africa, it is claimed that the scale of illegal/unreported fishing by the artisanal fishing fleet is of a similar magnitude to that found in the industrial sector.[18]

3. Climate change

16. These direct threats to the sustainability of fish production systems are magnified by the impacts of climate change. The rise in atmospheric carbon dioxide leads to increased sea temperatures and ocean acidification, threatening many calcifying organisms such as molluscs, plankton and coral reefs. This reduces dependent fish populations and is exacerbated by unsustainable fishing practices.[19] Warmer sea temperatures may lead to more frequent and severe outbreaks of algal blooms, which can have a devastating impact on fish populations. Extreme climate-related events may destroy coastal habitats. Marine species respond to the warming of oceans by moving to colder waters, which includes shifting their latitudinal range or moving to greater depths. Some fish will gradually move away from rich tropical waters, resulting in localized extinctions and the invasion of some species into waters where they were previously not found.[20]

4. Pollution and habitat loss

17. Oil spills, agricultural and industrial run-off, pollution from aquaculture and the enormous accumulation of plastic debris in water will have lasting effects on marine wildlife. Both climate change and pollution have contributed to dead zones in the ocean,[21] where oxygen levels in surface water are extremely low and can no longer support wildlife. Dead zones are linked with increasingly frequent outbreaks of red tides, where mass mortality events of fish and marine mammals are caused by toxin build-ups owing to lower oxygen levels in their environment.[22]

18. There has also been a vast increase in the accidental[23] introduction of exotic fish and plant species, partly as a result of increased shipping traffic, which routinely leads to the dumping of thousands of gallons of ballast water from one ocean into another.[24] When this occurs in inshore areas and estuaries,[25] it leads to

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[18] See D. J. Agnew and others, "Estimation of the cost of illegal fishing in West Africa" (Marine Resources Assessment Group, London, 2010).

[19] A recent survey of coral reef fisheries, accounting for some 10 per cent of global fish production, showed that current fishing practices in 55 per cent of countries were unsustainable and that the fishing of coral reef species was roughly 64 per cent higher than could be sustained. See Katie Newton and others, "Current and future sustainability of island coral reef fisheries", *Current Biology*, vol. 17, No. 7 (April 2007).

[20] See William W. L. Cheung and others, "Projecting global marine biodiversity impacts under climate change scenarios", *Fish and Fisheries*, vol. 10, No. 3 (2009).

[21] See Eric D. Prince and others, "Ocean scale hypoxia-based habitat compression of Atlantic istiophorid billfishes", *Fisheries Oceanography*, vol. 19, No. 6 (2010).

[22] Jeremy B. C. Jackson, "The future of the oceans past", *Philosophical Transactions of the Royal Society B*, vol. 365, No. 1558 (November 2010), p. 3,770.

[23] There are, of course, several examples, from tilapia found outside Africa to the Asian carp in the Mississippi River, where the deliberate introduction by humans of invasive species has helped solve a local problem within the ecosystem.

[24] Jackson, "The future of the oceans past", p. 3,769.

[25] See Jennifer L. Molnar and others, "Assessing the global threat of invasive species to marine biodiversity", *Frontiers in Ecology and the Environment*, vol. 6, No. 9 (2008).

the displacement of local species and, often, severely diminished biodiversity and reduced fish populations.

19. Lastly, the future of fishing is threatened by habitat loss. Mangrove forests, seagrass meadows, salt marshes and coral reefs play a vital role in the reproductive cycles of many fish and marine species. Since the 1940s, however, 35 per cent of the world's mangrove forests has been destroyed and one third of seagrass areas and 25 per cent of salt marshes have been lost.[26] For some habitats, declines are accelerating. Before 1990, seagrass meadows were being lost at a rate of about 1 per cent annually; since 1990, this rate has increased to 7 per cent.[27] One third of coral reefs has disappeared during the past 50 years.

B. Globalization of the fishing industry

20. International trade in fish products rose from 8 million tons in 1976, with a value of about $8 billion, to 57 million tonnes in 2010, worth an estimated $102 billion. Approximately 40 per cent of all fish production is traded internationally, which is more than other foods such as rice (5 per cent) and wheat (20 per cent).[28] For many low-income food-deficit countries or developing countries, the fisheries sector has become an increasingly important, but undervalued, economic sector, both as a source of export revenue and as a source of State revenue from selling access to distant-water fishing fleets. The overall economic, social and food security impacts of this increase in international trade of fish products are, however, ambiguous.

1. Competition for marine resources

21. Theoretically, the globalization of the fishing industry through trade and access arrangements may lead to decreased fish-food consumption by those who face food shortages and malnutrition, as competition for marine resources increases between populations with widely diverging purchasing power. The evidence in this regard is mixed, however, as shown by studies in which it is suggested that there may be cases where the availability of fish in low-income food-deficit countries may increase as exports rise.[29] For some countries in which small-scale fishing is not historically abundant, increased foreign fishing and investments in fish-processing factories to supply foreign markets may improve the availability of food locally, in particular where Government programmes redirect fish products from export to local markets.[30] It has also been suggested that an increase in exports of high-value fish could be commensurate with an increase in imports of lower-value

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[26] See UNEP, *Blue Carbon: A Rapid Response Assessment* (2009), available from www.grida.no/files/publications/blue-carbon/BlueCarbon_screen.pdf.

[27] See Michelle Waycott and others, "Accelerating loss of seagrasses across the globe threatens coastal ecosystems", *Proceedings of the National Academy of Sciences*, vol. 106, No. 30 (July 2009).

[28] FAO, *The State of World Fisheries and Aquaculture 2012*, pp. 14-15 (see footnote 1).

[29] Kurien, "Responsible fish trade and food security" (see footnote 2); Edward H. Allison, "Aquaculture, fisheries, poverty and food security", The WorldFish Center Working Paper, No. 2011-65 (Penang, Malaysia, 2011), pp. 34-36.

[30] Johann D. Bell and others, "Planning the use of fish for food security in the Pacific", *Marine Policy*, vol. 33, No. 1 (January 2009), p. 33.

fish, made possible by export revenue and leading to a healthy trade balance in terms of volume and value.

22. Concurrently, dependence on exports for revenue and on imports for food security creates a vulnerable situation in which economic shocks and food price volatility may increase the cost of fish-food imports for some developing countries, or lower the demand and prices paid for their exports. In Mozambique, for example, from 2004 to 2008, exports of high-value fish such as prawns decreased in volume by 34 per cent and in value by 41 per cent, while imports of cheaper fish for local consumption from Namibia and South Africa increased in volume by 50 per cent and in value by 45 per cent.[31] This meant that the fisheries trade balance in Mozambique had been reduced from about $90 million in 2002[32] to slightly in excess of $23 million by the end of the decade.

23. Local food supplies can be reduced where host Governments have issued licences or signed access agreements allowing foreign vessels to target fish and fishing grounds used by small-scale fishers, given that foreign boats are geared towards export and may undermine local small-scale fisheries. Although it is noted in the United Nations Convention on the Law of the Sea that countries should provide access to foreign fishing only for surplus fish that the local fishing sector cannot catch (arts. 62 (2), 69 (2) and 70 (3)), short-term economic incentives often prevail and, in many countries, scientific knowledge of surplus fish and information about catches are insufficient to ensure adequate compliance with this provision.

2. Employment opportunities for local populations

24. For small-scale fishers in developing countries, increased demand in foreign markets may open up opportunities. In Sri Lanka, fishers targeting species for overseas markets, such as tuna, shrimp and lobster, have much higher incomes than those involved in fisheries for local markets.[33] In other cases, however, where small-scale fishers sell fish destined for overseas markets, middlemen or fish-processing factories may pay relatively low prices, only marginally higher (or even the same) than those paid by local markets and consumers. In a study of fish trade in India, it was noted that fishers had little information on the prices paid for fish for export and relatively few actors controlled the supply chain and points of final sale.[34] Although there are promising counter-examples, small-scale fishers generally face considerable obstacles, such as competition from larger firms and tariff and non-tariff trade barriers, including difficulties in meeting the stringent hygiene and sanitation standards demanded by importing countries.[35]

25. The creation of fisheries for export markets and the increasing investments of foreign fishing firms may lead to new jobs on fishing boats and at the processing

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[31] See United States Agency for International Development, *Competitiveness of Mozambique's fisheries sector* (Washington, D.C., United States Agency for International Development, 2010).

[32] See FAO, *Present and future markets for fish and fish products from small-scale fisheries — case studies from Asia, Africa and Latin America* (FIIT/FIIU/C1033).

[33] Kurien, "Responsible fish trade and food security" (see footnote 2), p. 45.

[34] See Report for Oxfam (India) Trust on fishery in Orissa, available from www.orissafisheries.com/File/Value%20Chain%20Analysis%20Report%20of%20OXFAM-dec04.pdf.

[35] See FAO, *Report of the Global Conference on Small-scale Fisheries "Securing Sustainable Small-scale Fisheries: Bringing Together Responsible Fisheries and Social Development", Bangkok, 13-17 October 2008* (FIEP/R911).

stage (in countries that have the appropriate infrastructure). In many countries, however, jobs on foreign vessels are not open to local citizens and, even where they are, wages and job security are often poor and dangerous. In a 1999 study on safety and health in the fishing industry, the International Labour Organization estimated that 24,000 people working in the fish industry died annually from work-related causes. More recent research has exposed poor, even slave-like, working conditions in many industrial vessels operating illegally in developing coastal countries.[36] This highlights the importance of swift and wide ratification of the Convention concerning Work in the Fishing Sector (Convention No. 188) and the need to introduce provisions concerning work conditions on-board fishing vessels in fishing access agreements.

26. The quality of working conditions in the fish-processing industry also raises concerns, although conditions have improved since developed countries imposed higher sanitation and hygiene standards. In a 2004 study,[37] FAO showed that, for 9 of the 11 countries surveyed, fish workers were paid close to the minimum wage and often received much lower than the average per capita income for the country. In Chile, for example, the area home to most fish processing factories was also the area with the lowest per capita income levels.[38] Moreover, high levels of seasonal and informal work exist in the processing sector, meaning that many workers are not employed on full-time contracts with basic labour benefits, such as sick pay, pension or maternity leave. In part owing to the many fish-processing firms in the sector, workers often fail to unionize and to enter into collective bargaining.

27. The employment benefits from the increase of commercial exports must be weighed against the costs. Such an increase may lead to demand-led overfishing and sharpen the competition for resources between industrial and small-scale fishing. Export increases may over time lead to the loss of jobs for fishers in the small-scale sector. In Argentina, for example, the considerable expansion of industrial pelagic fisheries in the 1990s saw the gradual control of those fisheries by foreign-owned fishing enterprises, which displaced smaller, more labour-intensive local companies.[39] The growth of export-oriented fisheries may also lead to employment losses for the fish processors working in the small-scale sector supplying local or regional markets, as was seen in Kenya with the growth in commercial exports of Nile perch to Europe.

28. Support should be given to small-scale fishers to enable their entry into global markets under conditions that provide decent employment and allow fishers' cooperatives to expand into the high-added-value stages of the industry (see table 2). Maldives may serve as an example in this regard. Industrialized tuna fishing has not been permitted and the vast majority of fishing is undertaken by locally owned pole-and-line fishing boats.[40] In other cases, lobster fishers in Ceará, Brazil, for example,

[36] See Environmental Justice Foundation, *All at Sea: The Abuse of Human Rights aboard Illegal Fishing Vessels* (London, 2010).

[37] See Kurien, "Responsible fish trade and food security" (see footnote 2).

[38] See Stina Ellevseth Oseland, Håvard Haarstad and Arnt Fløysand, "Labor agency and the importance of the national scale: emergent aquaculture unionism in Chile", *Political Geography*, vol. 31, No. 2 (February 2012).

[39] See UNEP, *Integrated Assessment of Trade Liberalization and Trade-Related Policies: A Country Study on the Fisheries Sector in Argentina* (UNEP/ETB/2002/8).

[40] See Robert Stone, Lagi Toribau and Sari Tolvanen, "Developing sustainable and equitable pole and line fisheries for skipjack" (Greenpeace International, Amsterdam, 2009).

formed a cooperative that bypassed middlemen and allowed direct sales to retailers in the United States of America, increasing their profits by 70 per cent.[41]

Table 2
Respective contributions of large-scale and small-scale fisheries

FISHERY / BENEFITS	LARGE SCALE	SMALL SCALE
Subsidies	$$$$$ 25-27 billion	$ 5-7 billion
Number of fishers employed	about 1/2 million	over 12 million
Annual catch for human consumption	about 30 million t	same: about 30 million t
Annual catch reduced to fishmeal and oils	35 million t	Almost none
Annual fuel oil consumption	about 37 million t	about 5 million t
Catch per tonne of fuel consumed	1-2 t	4–8 t
Fish and other sealife discarded at sea	8–20 million tonnes	Very little

Source: Jennifer Jacquet and Daniel Pauly. "Funding priorities: big barriers to small-scale fisheries", *Conservation Biology*, vol. 22, No. 4 (August 2008).

[41] See Kurien, "Responsible fish trade and food security" (see footnote 2).

3. Revenue from trade and licence-related and access-related payments

29. Increased trade and licence-related and access-related payments can generate revenue for the developing countries concerned. The benefits, however, often continue to be shared unequally. Among the island nations in the western and central Pacific Ocean, for example, most commercial tuna fishing is managed through bilateral agreements with distant-water fishing fleets. The tuna fisheries are estimated to be worth $3 billion annually, yet local countries receive only some 6 per cent of that amount.[42] Research into European Union fisheries agreements conducted in the late 1990s also showed that benefits were unevenly shared. Overall, Union agreements generated more than seven times as much value to European countries (mostly France and Spain) than they did for the host countries.

30. A related concern pertains to the considerable underreporting of catches to host countries, which can lower host country revenue. In a study of European fishing in Guinea-Bissau, it was estimated that, not only were catches often misreported, but also substantial amounts of fish and shrimp were caught as by-catch, incurring no fees, and were then sold in Europe.[43] Adjusting for by-catch suggested that Guinea-Bissau received less than 2 per cent of the total value of the fish caught under the agreement.

31. Even where licences and access agreements generate substantial revenue for host countries, the poverty-reducing impacts are ambiguous. Managing foreign industrial fisheries may absorb a significant proportion of the revenue received by Governments. Corruption and embezzlement may result in State fisheries revenue contributing little to economic development, a situation compounded by the confidentiality of many bilateral fisheries agreements and fisheries licence payments. The World Bank, having identified this aspect as an important area for governance reform, is preparing to launch a fisheries transparency initiative modelled on the Extractive Industries Transparency Initiative. Nevertheless, it is too early to determine whether increased information disclosure in fisheries revenue will improve financial accountability and redistribution in the fisheries sector.

32. Lastly, the wealth generated by commercial fisheries may be concentrated among a few business and political elites, or repatriated to other countries, without benefiting the fishers, let alone society at large. Often, most benefits are reaped by the exporting firms and do not go towards improving the food security of the fishers or fish workers.[44]

C. Rise of aquaculture

33. Aquaculture has developed rapidly over the past few decades and is now considered the fastest-growing food production system in the world. Between 1980 and 2010, global fish-food production from aquaculture expanded twelvefold and, by 2010, total production from aquaculture was measured at 79 million tons, worth

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[42] Elizabeth Havice and Liam Campling, "Shifting tides in the western and central Pacific Ocean tuna industry: the political economy of regulation and industry responses", *Global Environmental Politics*, vol. 10, No. 1 (February 2010), p. 89.

[43] Vlad M. Kaczynski and David L. Fluharty, "European policies in West Africa: who benefits from fisheries agreements?", *Marine Policy*, vol. 26, No. 2 (March 2002), p. 75.

[44] See Kurien, "Responsible fish trade and food security" (see footnote 2).

$125 billion.[45] Aquaculture may provide up to 45 per cent of all fish for direct human consumption, although that figure does not consider the large amount of unrecorded fish caught by both small-scale and industrial fisheries. There are, however, strong regional imbalances. About 62 per cent of the world's total aquaculture production comes from China, and the next five largest producers are all in Asia, which accounts for about 88 per cent of all aquaculture production.

34. The impressive growth of aquaculture is seen, in part, as a response to the challenges discussed above, in particular to the stagnating wild-capture fisheries. While this holds true in Asia, fish farming is minimal in Africa, the Pacific and Latin America. Consequently, it remains difficult, in the absence of adequate data, to assess whether aquaculture is genuinely supporting food availability and accessibility for people living in poverty. Although small-scale aquaculture can contribute significantly to local food security, considerable investment and growth in aquaculture is for the benefit of exports or for middle-class urban consumers.

35. The reliance on wild-caught fish, fishmeal and fish oil in some forms of aquaculture must be considered. While most aquaculture products, such as non-carnivorous fish and molluscs, do not need fish as input, many species grown in fish farms require wild-caught fish as feed, for healthy growth and resilience to disease, and to ensure the high nutritional value of the product. In Asia, large quantities of what is known as "trash fish" are used by aquaculture farms, supplied by larger-scale fishing vessels as by-catch and also caught by small-scale fishers in some regions. Data on the volumes of trash fish used in aquaculture in Asia are considered unreliable, but the best estimates put the volume at about 5 million tons.[46] Other forms of aquaculture use processed fishmeal and fish oil as ingredients in fish-feed products, with most caught by industrial fisheries for small pelagics in South America. Overall, some 27 million tons of fish (34 per cent of the world fisheries catch) are ground up annually into fishmeal and oil. Aquaculture accounts for slightly in excess of half of this amount.[47]

36. The expansion of aquaculture has not led to an overall increase in the fish reduction industry. Instead, fishmeal has shifted from use in livestock farming to use in aquaculture over the past decade. While using fish to farm fish is a more efficient method of producing protein than feeding fish to chickens or pigs, the industry continues to face problems. Recent reports highlight extensive overfishing and negative ecosystem impacts caused by the reduction industry.[48] Use of the industry to produce farmed fish for wealthy consumers may come at the expense of poorer populations who could benefit from improved availability of and accessibility to wild fish.

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[45] FAO, *The State of World Fisheries and Aquaculture 2012* (see footnote 1), p. 25.

[46] See G. D. Chandrapal, "Status of trash fish utilization and fish feed requirements in aquaculture India", paper presented at the Regional Workshop on Low-Value Fish and "Trash Fish" in the Asia Pacific Region, Hanoi, June 2005.

[47] FAO, *The State of World Fisheries and Aquaculture 2010* (Rome, 2010), p. 3.

[48] See Mort Rosenblum and Mar Cabra, "'Free-for-all' decimates fish stocks in the southern Pacific", 25 January 2012. Available from www.icij.org/project/looting-seas-iii/free-all-decimates-fish-stocks-southern-pacific.

37. The relationship between fishmeal and fish-food availability for human consumption is complex:[49] the aquaculture industry has become more efficient in its use of fishmeal (for example, the use of plant-based feed to grow fish or a greater use of fish waste from industrial fish-processing factories: about one quarter of all fishmeal and fish oil comes from offcuts), significant regional variations exist and trade-offs may appear less obvious because of the higher costs in processing fish for human consumption compared to processing fish for fishmeal. Policy initiatives may reduce the competition between fishmeal and fish-food availability for human consumption. Peru supplies about half of the world's fishmeal and fish oil, but also needs to address food insecurity. To combat malnutrition, the Government has been promoting direct human consumption of fish since 2006, with 30 per cent of the food security budget ($80 million) spent on programmes to stimulate supply of and demand for fish products for human consumption. It has also imposed restrictions on the industry to ensure a proportion of fish that cannot be used for reduction purposes.[50]

IV. Meeting the challenges

38. The challenges described above can be addressed through policy responses grounded in the right to adequate food. In assessing efforts under way to tackle these challenges, the Special Rapporteur does not suggest that the right to food will provide a master plan for fisheries reform: context matters. The human rights obligations of States must guide their actions, however.

39. First, the right to food requires that States respect existing access to adequate food and abstain from taking measures that result in reducing such access. To fully discharge this obligation, States should refrain from adopting any policy that affects the territories and activities of small-scale, artisanal and indigenous fishers unless their free, prior and informed consent is obtained. National and local courts may play a significant role in this regard. Courts should be empowered, in particular, to adjudicate claims from small-scale fishers whose livelihoods are threatened by measures that infringe on their ability to fish so as to provide sufficient income to ensure an adequate standard of living.[51]

40. Second, States have an obligation to protect the right to food. They must ensure that enterprises or individuals do not deprive individuals of their access to adequate food. In the context of fisheries policies, this requires States, in particular,

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[49] See Ulf N. Wijkström, "The use of wild fish as aquaculture feed and its effects on income and food for the poor and the undernourished", in *Fish as feed inputs for aquaculture: practices, sustainability and implications*, Mohammed R. Hasan and Matthias Halwart, eds., FAO Fisheries and Aquaculture Technical Paper, No. 518 (Rome, FAO, 2009).

[50] See "Fishing in Peru; the next anchovy coming to a pizza near you", *The Economist*, 5 May 2011. Available from www.economist.com/node/18651372.

[51] See, for example, *Kenneth George and Others v. Minister of Environmental Affairs and Tourism*, in which the High Court of South Africa ordered a revision of the Marine Living Resources Act and required that the development of a new framework should take into account international and national legal obligations and policy directives to accommodate the socioeconomic rights of small-scale fishers and to ensure equitable access to marine resources for those fishers. This resulted in the adoption of a new small-scale fisheries policy in May 2012, which recognized the importance of small-scale fisheries in contributing to food security and as serving as a critical safety net against poverty.

to protect the access rights of traditional fishing communities from industrial fishing and to control private actors that could affect the lands, territories and water on which these communities depend.

41. Lastly, States have an obligation to fulfil the right to food, which requires them to act proactively to strengthen people's access to and utilization of resources and means to ensure their livelihoods. The search for arrangements that preserve the long-term (environmental) sustainability of fishing, including by reducing overfishing and conserving fish habitats, while concurrently improving the incomes of small-scale fishing communities, is the key challenge facing Governments in developing strategies that progressively realize the right to food. The example of the work carried out by a group of organizations, led by the Secretariat of the Pacific Community, to identify current per capita fish consumption in the Pacific island countries and territories in order to project future scenarios of fish food security and to develop plans to tackle the key challenges, may serve as a source of inspiration.

42. The Special Rapporteur has identified three areas in which the right to adequate food may guide efforts to improve fisheries management: policies aimed at combating overfishing; the management of export-oriented fishing, including access agreement negotiations; and the protection of small-scale fisheries. They are discussed below.

A. International efforts to reduce overfishing

1. Existing commitments

43. As awareness has grown of the threat posed by overfishing, international agreements and guidelines have been drawn up to address various dimensions of the problem. These include the United Nations Convention on the Law of the Sea, the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (the 1995 Fish Stocks Agreement) and the FAO Code of Conduct for Responsible Fisheries, which adopt precautionary and ecosystem approaches to fisheries. Arguably the most ambitious is the Plan of Action of the World Summit on Sustainable Development, which includes actions to reduce overcapacity in the global fishing fleet, a commitment to expand the total coverage of marine protected areas to 10 per cent of the world's oceans by 2012 (later deferred to 2020 in the light of the slow progress) and to rebuild fish stocks by 2015. At the United Nations Conference on Sustainable Development, Governments pledged to intensify their efforts in that regard (see para. 168 of the outcome document).

44. Progress is also being made in managing coastal and inshore areas fished predominantly by small-scale fishers. The limitations of top-down management strategies are now better appreciated and the participation of fishing communities is seen as paramount, as is the integration of local fishers' knowledge of fish and marine habitat changes. The need for community co-management arrangements in fisheries is reinforced in the draft FAO guidelines for securing sustainable small-scale fisheries, which are being finalized through extensive stakeholder consultations at the time of writing.

45. Although success in some countries to restore fish stocks to healthy levels has been achieved,[52] global progress in implementing the various commitments remains disappointing, as confirmed in studies of fisheries management effectiveness.[53] Other targets in the Plan of Action of the World Summit on Sustainable Development have largely been missed. Although fishing capacity has declined in some countries since 2002, it has increased globally from about 4.02 billion kilowatt-days in 2002 to 4.35 billion kilowatt-days in 2010.[54] The total coverage of marine protected areas is estimated at less than 2 per cent.

46. The widespread failure to implement responsible fisheries management notwithstanding, the situation can be rectified. For example, there has been notable progress in creating marine protected areas, with some of the largest protected areas being declared recently, including in northern Australia and in the Indian Ocean surrounding the Chagos Islands. During the United Nations Conference on Sustainable Development, Maldives announced that its entire territorial waters would become a marine reserve by 2017 and industrial fishing and extractive industries therein would be banned. Notwithstanding the benefits expected to accrue from marine protected areas and their relatively minor management costs (around $2 billion in total, compared to the $16 billion spent annually on subsidies in the fishing sector), marine protected areas cannot replace regulation of fishing efforts and harvesting capacity. In addition, they can negatively affect the livelihoods of small-scale fishers and local food security.

2. Role of subsidies

47. As mentioned in paragraph 11 of the present report, subsidies, at least those that support increased industrial fishing capacity, may encourage overfishing. At the Fourth Ministerial Conference of the World Trade Organization (WTO), held in Doha in November 2001, negotiations to clarify and improve WTO disciplines on fisheries subsidies were initiated. At the Sixth Ministerial Conference of WTO, held in Hong Kong, China, in December 2005, broad agreement was reached on strengthening those disciplines, including a prohibition of fisheries subsidies that directly contributed to overcapacity and overfishing. In 2007, the Chair of the Negotiating Group on Rules submitted recommendations that included exemptions for low-income food-deficit countries, in particular for subsidies that promoted the development of and supported small-scale fishers. Such exemptions would be conditional on countries showing that subsidies were provided only where there were robust measures to protect fish stocks and prevent overfishing. While this recommendation has gained widespread approval, there have been more controversial calls to expand the exemptions to other developing countries. Some States have expressed doubts over the contribution of subsidies to overfishing. Disagreements also exist as to exactly what type of subsidies should be prohibited, with opinions differing on issues such as the building of ports and fisheries access agreements. Lastly, there are concerns that, even if agreement is reached, enforcing

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[52] See, for example, Boris Worm and others, "Rebuilding global fisheries", *Science*, vol. 325 (2009).

[53] See, for example, Tony J. Pitcher and others, *Safe Conduct? Twelve Years Fishing under the UN Code*" (WWF, Gland, Switzerland, 2008).

[54] See Liane Veitch and others, "Avoiding empty ocean commitments at Rio+20", *Science*, vol. 336, No. 6,087 (June 2012).

the WTO disciplines will be extremely difficult, given that 90 per cent of fisheries subsidies are confidential and beyond public scrutiny.[55]

3. Combating illegal, unreported and unregulated fishing

48. Other efforts to address overfishing include international initiatives to combat illegal, unreported and unregulated fishing. In 2001, FAO produced an international plan of action to prevent, deter and eliminate such fishing, within the framework of the FAO Code of Conduct for Responsible Fisheries. The European Community followed with a Community action plan to eradicate such fishing, in 2002. In 2005, FAO produced a model scheme on port State measures to combat such fishing, focusing on the role of port States in preventing illegally caught fish from being trans-shipped to or laundered in the legal market, and, in 2009, the first legally binding instrument in that regard was adopted by the FAO Conference. Under the instrument, port States are obliged to deny access to vessels known to engage in illegal activities and port authorities required to share data on port visits of fishing vessels with regional fisheries management organizations. The European Union has now also passed legislation (Council Regulation (EC) No. 1005/2008 of 29 September 2008) requiring all fish entering the Union to be accompanied by verified catch documentation and proof of chain of custody.

49. It is unclear whether these efforts are well guided. First, while illegal, unreported and unregulated industrial fishing is a problem, most of the catch of small-scale fishers goes unreported. Analogizing these catches to illegal fishing underestimates their role in contributing to food security and does not encourage the fishers concerned to shift to more responsible practices. Approaches to illegal, unreported and unregulated fishing should also acknowledge the function of fishing as an occasional activity for some coastal communities (including inland coastal communities), where it is an essential safety net in times of crisis. Second, the current approaches are not particularly effective in reducing illegal, unreported and unregulated fishing because of capacity gaps and weak governance in developing countries and lack of commitment by home countries of distant-water fishing fleets in investigating and prosecuting fishing firms abroad.[56] Third, the structural causes of illegal, unreported and unregulated fishing, such as overcapacity in the world's fishing fleet and inadequate support for communities who depend on fishing for their livelihoods, remain unaddressed. Without access to adequate social protection, without fair prices or if they are priced out of approaches based on the allocation of fishing rights through licences, these communities are not in a position to participate in regimes that seek to reduce overfishing or to combat illegal, unreported and unregulated fishing.

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[55] See Anja von Moltke, "WTO Negotiations on fisheries subsidies: a critical issue for Commonwealth countries", in *From Hook to Plate: The State of Marine Fisheries — A Commonwealth Perspective*, Mark Collins and Richard Bourn, eds. (London, Commonwealth Foundation, 2009).

[56] See D. J. Agnew and others, "Estimation of the cost of illegal fishing in West Africa" (see footnote 18).

B. Trade agreements

50. The Special Rapporteur has previously described the role that human rights impact assessments of trade and investment agreements can play in allowing countries to discharge their human rights obligations (see A/HRC/19/59/Add.5). Trade and access agreements in fisheries provide another such illustration. The above assessment of the potential opportunities and risks of such agreements (see paras. 29-32) may serve to identify the questions that should be asked in any impact assessment before the conclusion of an agreement by the coastal State. These are, for example:

(a) Will the agreement increase or decrease food availability in the coastal State? If food availability increases, either because of improved fishing capacity or because of the imports made possible by export revenue, is this sustainable in the long term to protect the coastal State from potential shocks?

(b) Is the agreement accompanied by measures aimed at improving local fishing capacity, in accordance with the United Nations Convention on the Law of the Sea?

(c) Are measures in place to ensure that small-scale fishers are equipped to benefit from the opportunities created by trade agreements, in particular by improving their ability to comply with standards and their bargaining position vis-à-vis buyers?

(d) Are measures in place to ensure that export-oriented fishing creates decent work opportunities to ensure an adequate standard of living? Overall, will the agreement increase the incomes of the poorest and most marginalized groups within the coastal communities, especially women?

(e) Are the licence and access agreements fair in sharing the benefits between the coastal State and the flag State under which the fishing vessels operate? Is the revenue from such agreements used to support poverty reduction in the coastal State?

51. These questions can be answered only in a context-specific way. It is essential that the answers be sought through participatory processes that involve, in particular, small-scale fishers and the coastal communities who will be most directly affected by the agreement in question.

C. Towards guidelines on sustainable small-scale fisheries

52. The FAO Committee on Fisheries is currently developing international guidelines for securing sustainable small-scale fisheries, a follow-up to the Global Conference on Small-Scale Fisheries, held in Bangkok in October 2008, and a complement to the Code of Conduct for Responsible Fisheries. The Special Rapporteur welcomes this important initiative, in which he intends to remain actively involved.[57] Linking the content of the guidelines to the norms and

[57] The Special Rapporteur has prepared a contribution examining how the right to food (substantive and procedural contents) should be applied to the international guidelines on small-scale fisheries under development. It is available from www.ohchr.org/EN/Issues/Food/Pages/Otherdocuments.aspx or www.srfood.org.

standards of international human rights law, including the right to food, is essential. Below, the Special Rapporteur offers general remarks on some key issues to be considered in the negotiations.

1. Access and tenure rights

53. Access rights of artisanal and small-scale fishing communities — more than 90 per cent of whom are in developing countries — are protected under various instruments. Under article 5 (i) of the 1995 Fish Stocks Agreement, States are required to take into account the interests of artisanal and subsistence fishers. In article 6.18 of the Code of Conduct for Responsible Fisheries, there is recognition of the important contributions of artisanal and small-scale fisheries to employment, income and food security, with States recommended to appropriately protect the rights of fishers and fish workers, particularly those engaged in subsistence, small-scale and artisanal fisheries, to a secure and just livelihood, as well as preferential access, where appropriate, to traditional fishing grounds and resources in the waters under their national jurisdiction.

54. Beyond general wording, however, disagreements exist about how user rights, which can range from individual to community-based rights, should be approached for the small-scale sector, and the overall aims of strengthening or changing user rights. One view is that a clarification and strengthening of access rights, including the use of transferable fishing quotas, would increase economic efficiency and avoid overfishing. Another view is that priority should be accorded to poverty-reduction objectives and to improving access to fishing rights by the communities most in need and who could be best placed to manage the common-pool resources concerned and monitor catches at the local level.

55. Individual transferable quotas systems may lead to rent capture by some actors in a privileged position, which is difficult to reconcile with poverty-reduction objectives. An alternative might be to allow operators to rent quotas from the Government so that quotas are periodically redistributed on equity grounds. Transferability of quotas (conceived as property rights) will inevitably lead to monopolization, unless limited to transferability between the deceased holder and his/her descendants (if they also fish). Indeed, the Human Rights Committee noted that a system in which the quotas originally held could be sold or leased at market prices instead of reverting to the State for allocation to new quota holders in accordance with fair and equitable criteria might result in discrimination in violation of article 26 of the International Covenant on Civil and Political Rights (see CCPR/C/91/D/1306/2004). Other systems can be explored that combine sustainability requirements (limiting overfishing) and redistributive aims based on human rights norms and standards.

56. There has been notable progress in providing exclusive rights to coastal areas for small-scale fishers. In many developing countries, Governments have introduced exclusive artisanal fishing zones, often under pressure from their small-scale sectors.[58] In Cambodia, community-based dialogues and participatory research on the causes of conflict and overfishing in Tonle Sap Lake (the largest freshwater lake in South-East Asia, providing employment to an estimated 3 million people)

[58] See Chandrika Sharma, "Securing economic, social and cultural rights of small-scale and artisanal fisherworkers and fishing communities", *Journal of Maritime Studies*, vol. 10, No. 2 (2011).

resulted in the cancellation of all commercial fishing licences and the establishment of community-based user rights for small-scale and subsistence fisheries. This success illustrates the positive poverty-reduction outcomes of community deliberation and participation in fisheries management.[59]

57. Progress in providing exclusive fishing zones for small-scale fishers notwithstanding, there are persistent and widespread complaints of violations, such as prohibited fishing by industrial boats and the damaging effects of other industries, including mining, port development, fish processing, coastal aquaculture and real estate development, especially linked to the tourism sector. There is growing conflict over the use of marine and aquatic resources, in particular owing to insecure land tenure for the members of small-scale fishing communities.[60] This underscores the important need for States to fully implement the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. It also highlights the need for programmes in which fishers collaborate with the authorities to monitor infringements of their exclusive fishing zones. Such programmes have been initiated in some countries with varying degrees of success.

2. Co-management

58. There is also growing recognition that top-down management strategies have proved unsuccessful for the small-scale sector. The active and meaningful participation by communities in the management of fisheries and the integration into decision-making of local or traditional knowledge of fish and marine habitats held by fishers is paramount. Indeed, there has been significant progress in terms of decentralization and co-management arrangements. Researchers recently identified 130 co-management schemes, covering 44 developed and developing countries, often showing how local communities have been able to develop legitimate institutions of self-governance and established sustainable approaches to managing fishing intensity and ecosystem impacts.[61]

59. Past co-management projects have a mixed record.[62] Some have been notable successes, in both developed and developing countries,[63] while others have led to less positive outcomes. Failures in co-management are partly explained by the fact that communities have been involved only in the implementation of policy, rather than in setting objectives of policy and ensuring that policymaking and evaluation are based on local knowledge of fish and marine ecosystems. The failure to integrate fishing communities into the design of policies affecting them, the top-down

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[59] See www.worldfishcenter.org/outcome/success-stories/building-resilient-community-fisheries-tonle-sap-lake-cambodia.

[60] See Edward H. Allison and others, "Rights-based fisheries governance: from fishing rights to human rights", *Fish and Fisheries*, vol. 13, No. 1 (March 2012).

[61] See Nicolás L. Gutiérrez, Ray Hilborn and Omar Defeo, "Leadership, social capital and incentives promote successful fisheries", *Nature*, vol. 470 (February 2011).

[62] For an assessment, see Christophe Béné and others, "Power competition, conflicts and alliances at local level: analysing 'democratic' decentralization of natural resources through the lenses of Africa inland fisheries", *World Development*, vol. 37, No. 12 (2009).

[63] See, for example, R. Townsend, Ross Shotton and H. Uchida, "Case studies in fisheries self-governance", FAO Fisheries Technical Paper, No. 504 (Rome, FAO, 2008). Available from www.fao.org/docrep/010/a1497e/a1497e00.htm.

creation of community-based organizations to carry out functions for the State[64] and approaches that are excessively donor-driven[65] or that are captured by elites[66] have all disappointed expectations. The solution to these difficulties is not to abandon co-management, but to build it in a more participatory way, based on the needs of the fishing communities. This in turn will be successful only if the livelihoods of fishers are also better secured, taking into account that the environment in which they operate, and the markets on which they depend, are increasingly risky. Only by linking fisheries management to the broader improvement of the economic and social rights of fishers, in a multisectoral approach that acknowledges how fishing fits into the broader social and economic fabric, can progress be made towards robust and sustainable solutions.

V. Conclusions and recommendations

60. **States should discharge their duties to respect, protect and fulfil the right to food in the fisheries sector by moving towards sustainable resource use while ensuring that the rights and livelihoods of small-scale fishers and coastal communities are respected and that the food security of all groups depending on fish is improved. This is a difficult balance to strike, but, without swift and bold action by States, the contribution made by fisheries to securing the right to food will diminish, with considerable consequences, in particular for poorer rural communities that depend on fisheries for both their nutritional needs and their income. Both coastal and flag States should accept their duties in this regard and should actively involve the fishing communities themselves, both in fisheries management and in the design and implementation of policies in adjacent sectors that could affect fishing.**

61. **Coastal States and landlocked States with inland fisheries should:**

(a) **Respect the existing rights of artisanal and small-scale fishing communities, consistent with article 5 (i) of the 1995 Fish Stocks Agreement and article 6.18 of the Code of Conduct for Responsible Fisheries, in addition to the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security;**

(b) **Involve local fishing communities in the design, implementation and assessment of the fisheries policies and interventions affecting them, in accordance with human rights norms and standards and article 10.1.2 of the Code of Conduct for Responsible Fisheries, and establish grievance mechanisms allowing them to protect the rights that may be affected by such policies and interventions;**

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[64] See Jesper Raakjær Nielsen and others, "Fisheries co-management — an institutional innovation? Lessons from South East Asia and Southern Africa", *Marine Policy*, vol. 28 (2004).

[65] Donor-driven co-management, where capacity-building is supported by development aid, does not necessarily encourage fisheries authorities to engage with communities, apart from where financial incentives are concerned. External support to co-management schemes, of course, is welcomed, provided that it involves the communities concerned in a bottom-up fashion.

[66] Co-management has sometimes led to capture by elites. Communities are not homogenous entities: there are important class and gender divisions that can be accentuated through decentralization policies. See Christophe Béné and others, "Power competition" (footnote 62).

(c) Refrain from taking measures, including large-scale development projects, that may adversely affect the livelihoods of inland and marine small-scale fishers, their territories or access rights, unless their free, prior and informed consent is obtained, and ensure that courts protect such rights; and conduct ex-ante assessments of extractive industry projects, such as sand extraction, operated by private entities in order to evaluate the possible negative human rights impacts on local fishing communities;

(d) Consistent with the pledge made at the United Nations Conference on Sustainable Development (see para. 175 of the outcome document), strengthen access to fishery resources and improve the incomes of small-scale fishing communities by:

(i) Regulating the industrial fishing sector to protect the access rights of traditional fishing communities;

(ii) Considering the introduction of exclusive artisanal fishing zones and exclusive user rights for small-scale and subsistence fisheries, where appropriate;

(iii) Strengthening the position of small-scale fishers in the production chain, for example by supporting the formation of cooperatives and assisting them to expand into the high-added-value stages of the industry;

(iv) Supporting fishers' groups wishing to gain access to export markets under conditions that provide decent employment and promote sustainable fisheries management;

(v) Providing adequate social protection or safety net interventions to communities who depend on fishing for their livelihoods, in order to reduce the need for food-insecure and/or low-income groups to engage in coping but unsustainable fishing practices in times of crisis;

(vi) Taking measures that support the role of women in the fisheries sector, for example by ensuring access to credit for women and providing adequate facilities for them at landing sites;

(e) Support sustainable aquaculture practices that benefit local communities and agroecological fish-farming practices, including rice-fish or rice-shrimp systems;

(f) Integrate issues related to fisheries into cross-sectoral national strategies on the right to food and ensure, through adequate interministerial coordination, that progress in moving towards sustainable fisheries management is not impeded by developments in other sectors, including mining, hydropower generation, port infrastructure and real estate, especially that linked to the tourism sector;

(g) Conduct human rights impact assessments involving the participation of the fishing communities who could potentially be affected before fishing access agreements are concluded (see A/HRC/19/59/Add.5).

62. Flag States should protect labour rights in the fishing industry, including by ratifying and implementing the Convention concerning Work in the Fishing Sector (Convention No. 188). In addition, flag States should:

(a) **Combat exploitative labour conditions that affect undocumented migrants in particular and ensure the implementation of all labour rights, including the rights to collective bargaining, living wages and basic labour benefits;**

(b) **When engaging in fishing access agreements, agree to introduce provisions concerning conditions of work in the fishing industry; support the preparation of human rights impact assessments; and support the efforts of coastal States to regulate the fishing practices of industrial vessels operating in exclusive economic zones.**

63. **To preserve the long-term sustainability of fishing and the availability of local fish as food, in particular by combating overfishing, all States should:**

(a) **Act in accordance with the pledge made at the United Nations Conference on Sustainable Development (see para. 173 of the outcome document) to abolish subsidies for fuel or boatbuilding to the industrial fishing sector and review all other subsidies to ensure that they contribute to the realization of the right to food (domestically and extraterritorially), in particular for small-scale fishers in developing countries. While the members of WTO are encouraged to meet their commitment to clarify and improve WTO disciplines on fisheries subsidies, the abolishment of the subsidies negatively affecting the right to food should not be made conditional on arriving at a multilateral agreement;**

(b) **Implement their commitments under the Plan of Implementation of the World Summit on Sustainable Development, including to reduce their fishing capacity and to create marine protected areas, while taking into account the food security of coastal fishing communities;**

(c) **Support the establishment of co-management and community-based schemes wherein public entities engage with fishing communities in designing and implementing sustainable approaches to managing fishing intensity and ecosystem impacts;**

(d) **Implement the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, while taking into account the role of occasional fishing as a safety net in times of crisis for some coastal communities and recognizing the essential difference between unreported fishing by small-scale fishers and illegal industrial fishing;**

(e) **Reduce the proportion of fish used for fishmeal purposes, including by promoting direct human consumption of some small and nutritious fish, curbing demand for fish proteins from fish higher up the food chain (such as tuna and salmon or farmed carnivorous species such as prawns) by affluent consumers, which leads to overexploitation of marine resources worldwide, and considering imposing restrictions on the proportion of fish that can be used for reduction purposes.**

64. **The Special Rapporteur encourages the FAO Committee on Fisheries:**

(a) **To ensure that the international guidelines for securing sustainable small-scale fisheries, to be negotiated in 2013, involve the active and meaningful participation of fishers' organizations and are consistent with existing international human rights norms and standards;**

(b) **To ensure that the guidelines include a mechanism to facilitate discussion of both good practices and issues of concern with regard to their implementation, based on the participation of and information provided by fishing communities, given that such a mechanism would strengthen the implementation of the guidelines and accelerate collective learning among States.**

65. **The Special Rapporteur welcomes the fisheries transparency initiative to be launched by the World Bank and encourages it to ground this initiative in the human rights analytical and normative framework.**